table X correct answer knowledge question

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2024-06-18

library(tidyverse)

## ── Attaching core tidyverse packages ──────────────────────── tidyverse 2.0.0 ──  
## ✔ dplyr 1.1.4 ✔ readr 2.1.5  
## ✔ forcats 1.0.0 ✔ stringr 1.5.1  
## ✔ ggplot2 3.5.0 ✔ tibble 3.2.1  
## ✔ lubridate 1.9.3 ✔ tidyr 1.3.1  
## ✔ purrr 1.0.2   
## ── Conflicts ────────────────────────────────────────── tidyverse\_conflicts() ──  
## ✖ dplyr::filter() masks stats::filter()  
## ✖ dplyr::lag() masks stats::lag()  
## ℹ Use the conflicted package (<http://conflicted.r-lib.org/>) to force all conflicts to become errors

SCDKAPa1 <- read\_csv("data/Feb\_20\_2024\_SCDKAPAim1.csv")

## Rows: 208 Columns: 153  
## ── Column specification ────────────────────────────────────────────────────────  
## Delimiter: ","  
## chr (18): patho\_ng, complscdpeds\_ng, acutechestpres\_ng, investcause\_ng, man...  
## dbl (135): record\_id, age\_ng, gender\_ng, practice\_loc\_ng, region\_ng, profess...  
##   
## ℹ Use `spec()` to retrieve the full column specification for this data.  
## ℹ Specify the column types or set `show\_col\_types = FALSE` to quiet this message.

# Which of the following pathophysiologic mechanisms are associated with SCD? Ans: e

SCDKAPa1 %>%   
 group\_by(patho\_ng, profession\_ng\_up) %>%   
 summarise(  
 n = n(),  
 .groups = "drop"  
 ) %>%   
 mutate(  
 total = sum(n),  
 percentage = round(n/sum(n)\*100,1)  
 )

## # A tibble: 14 × 5  
## patho\_ng profession\_ng\_up n total percentage  
## <chr> <dbl> <int> <int> <dbl>  
## 1 a 1 3 208 1.4  
## 2 a 2 1 208 0.5  
## 3 a 3 3 208 1.4  
## 4 b 1 3 208 1.4  
## 5 b 2 21 208 10.1  
## 6 b 3 5 208 2.4  
## 7 c 1 25 208 12   
## 8 c 2 53 208 25.5  
## 9 c 3 6 208 2.9  
## 10 d 2 1 208 0.5  
## 11 d 3 3 208 1.4  
## 12 e 1 30 208 14.4  
## 13 e 2 48 208 23.1  
## 14 e 3 6 208 2.9

# Which of the following complications is not common among children with SCD? Ans: e

SCDKAPa1 %>%   
 group\_by(complscdpeds\_ng, profession\_ng\_up) %>%   
 summarise(  
 n = n(),  
 .groups = "drop"  
 ) %>%   
 mutate(  
 total = sum(n),  
 percentage = round(n/sum(n)\*100,1)  
 )

## # A tibble: 14 × 5  
## complscdpeds\_ng profession\_ng\_up n total percentage  
## <chr> <dbl> <int> <int> <dbl>  
## 1 a 1 31 208 14.9  
## 2 a 2 37 208 17.8  
## 3 a 3 8 208 3.8  
## 4 b 1 3 208 1.4  
## 5 b 2 9 208 4.3  
## 6 b 3 1 208 0.5  
## 7 c 1 4 208 1.9  
## 8 c 2 21 208 10.1  
## 9 d 1 4 208 1.9  
## 10 d 2 5 208 2.4  
## 11 d 3 3 208 1.4  
## 12 e 1 19 208 9.1  
## 13 e 2 52 208 25   
## 14 e 3 11 208 5.3

# Acute chest syndrome may be associated with which of the following presentations? Ans: d

SCDKAPa1 %>%   
 group\_by(acutechestpres\_ng, profession\_ng\_up) %>%   
 summarise(  
 n = n(),  
 .groups = "drop"  
 ) %>%   
 mutate(  
 total = sum(n),  
 percentage = round(n/sum(n)\*100,1)  
 )

## # A tibble: 10 × 5  
## acutechestpres\_ng profession\_ng\_up n total percentage  
## <chr> <dbl> <int> <int> <dbl>  
## 1 a 1 4 208 1.9  
## 2 a 2 43 208 20.7  
## 3 a 3 11 208 5.3  
## 4 b 1 1 208 0.5  
## 5 b 2 1 208 0.5  
## 6 b 3 2 208 1   
## 7 c 2 13 208 6.2  
## 8 d 1 56 208 26.9  
## 9 d 2 67 208 32.2  
## 10 d 3 10 208 4.8

# Which of the following pain symptoms should warrant further investigation for the cause? Ans: d

SCDKAPa1 %>%   
 group\_by(investcause\_ng, profession\_ng\_up) %>%   
 summarise(  
 n = n(),  
 .groups = "drop"  
 ) %>%   
 mutate(  
 total = sum(n),  
 percentage = round(n/sum(n)\*100,1)  
 )

## # A tibble: 10 × 5  
## investcause\_ng profession\_ng\_up n total percentage  
## <chr> <dbl> <int> <int> <dbl>  
## 1 a 1 2 208 1   
## 2 a 2 16 208 7.7  
## 3 a 3 5 208 2.4  
## 4 b 1 5 208 2.4  
## 5 b 2 27 208 13   
## 6 b 3 4 208 1.9  
## 7 c 2 6 208 2.9  
## 8 d 1 54 208 26   
## 9 d 2 75 208 36.1  
## 10 d 3 14 208 6.7

# Which of the following painful conditions is frequently the initial manifestation of SCD in children? Ans: a

SCDKAPa1 %>%   
 group\_by(manifescdpeds\_ng, profession\_ng\_up) %>%   
 summarise(  
 n = n(),  
 .groups = "drop"  
 ) %>%   
 mutate(  
 total = sum(n),  
 percentage = round(n/sum(n)\*100,1)  
 )

## # A tibble: 10 × 5  
## manifescdpeds\_ng profession\_ng\_up n total percentage  
## <chr> <dbl> <int> <int> <dbl>  
## 1 a 1 52 208 25   
## 2 a 2 14 208 6.7  
## 3 a 3 4 208 1.9  
## 4 b 2 1 208 0.5  
## 5 c 1 1 208 0.5  
## 6 c 2 12 208 5.8  
## 7 c 3 3 208 1.4  
## 8 d 1 8 208 3.8  
## 9 d 2 97 208 46.6  
## 10 d 3 16 208 7.7

# Which of the following approaches to analgesic management is considered the gold standard? Ans: a

SCDKAPa1 %>%   
 group\_by(goldstand\_ng, profession\_ng\_up) %>%   
 summarise(  
 n = n(),  
 .groups = "drop"  
 ) %>%   
 mutate(  
 total = sum(n),  
 percentage = round(n/sum(n)\*100,1)  
 )

## # A tibble: 11 × 5  
## goldstand\_ng profession\_ng\_up n total percentage  
## <chr> <dbl> <int> <int> <dbl>  
## 1 a 1 54 208 26   
## 2 a 2 57 208 27.4  
## 3 a 3 4 208 1.9  
## 4 b 2 10 208 4.8  
## 5 b 3 8 208 3.8  
## 6 c 1 6 208 2.9  
## 7 c 2 42 208 20.2  
## 8 c 3 7 208 3.4  
## 9 d 1 1 208 0.5  
## 10 d 2 15 208 7.2  
## 11 d 3 4 208 1.9

# Potential reasons for repeat ED visits include all of the following except? Ans: d

SCDKAPa1 %>%   
 group\_by(edvisit\_ng, profession\_ng\_up) %>%   
 summarise(  
 n = n(),  
 .groups = "drop"  
 ) %>%   
 mutate(  
 total = sum(n),  
 percentage = round(n/sum(n)\*100,1)  
 )

## # A tibble: 18 × 5  
## edvisit\_ng profession\_ng\_up n total percentage  
## <chr> <dbl> <int> <int> <dbl>  
## 1 a 1 3 208 1.4  
## 2 a 2 12 208 5.8  
## 3 a 3 4 208 1.9  
## 4 b 1 2 208 1   
## 5 b 2 7 208 3.4  
## 6 b 3 3 208 1.4  
## 7 c 1 9 208 4.3  
## 8 c 2 19 208 9.1  
## 9 c 3 3 208 1.4  
## 10 d 1 5 208 2.4  
## 11 d 2 10 208 4.8  
## 12 d 3 1 208 0.5  
## 13 e 1 18 208 8.7  
## 14 e 2 31 208 14.9  
## 15 e 3 4 208 1.9  
## 16 f 1 24 208 11.5  
## 17 f 2 45 208 21.6  
## 18 f 3 8 208 3.8

# List the most common contraindication to NSAIDs for patients with SCD? Ans: d

SCDKAPa1 %>%   
 group\_by(contransaids\_ng, profession\_ng\_up) %>%   
 summarise(  
 n = n(),  
 .groups = "drop"  
 ) %>%   
 mutate(  
 total = sum(n),  
 percentage = round(n/sum(n)\*100,1)  
 )

## # A tibble: 12 × 5  
## contransaids\_ng profession\_ng\_up n total percentage  
## <chr> <dbl> <int> <int> <dbl>  
## 1 a 1 2 208 1   
## 2 a 2 7 208 3.4  
## 3 a 3 5 208 2.4  
## 4 b 1 37 208 17.8  
## 5 b 2 73 208 35.1  
## 6 b 3 11 208 5.3  
## 7 c 1 1 208 0.5  
## 8 c 2 5 208 2.4  
## 9 c 3 2 208 1   
## 10 d 1 21 208 10.1  
## 11 d 2 39 208 18.8  
## 12 d 3 5 208 2.4

# Methadone may be indicated for which of the following patients? Ans:

SCDKAPa1 %>%   
 group\_by(indicmetha\_ng, profession\_ng\_up) %>%   
 summarise(  
 n = n(),  
 .groups = "drop"  
 ) %>%   
 mutate(  
 total = sum(n),  
 percentage = round(n/sum(n)\*100,1)  
 )

## # A tibble: 12 × 5  
## indicmetha\_ng profession\_ng\_up n total percentage  
## <chr> <dbl> <int> <int> <dbl>  
## 1 a 1 7 208 3.4  
## 2 a 2 31 208 14.9  
## 3 a 3 4 208 1.9  
## 4 b 1 6 208 2.9  
## 5 b 2 10 208 4.8  
## 6 b 3 1 208 0.5  
## 7 c 1 8 208 3.8  
## 8 c 2 8 208 3.8  
## 9 c 3 3 208 1.4  
## 10 d 1 40 208 19.2  
## 11 d 2 75 208 36.1  
## 12 d 3 15 208 7.2

# Using opioids to treat insomnia, anxiety, or for some other purpose than treating pain defines which of the following? Ans: b

SCDKAPa1 %>%   
 group\_by(insomantx\_ng, profession\_ng\_up) %>%   
 summarise(  
 n = n(),  
 .groups = "drop"  
 ) %>%   
 mutate(  
 total = sum(n),  
 percentage = round(n/sum(n)\*100,1)  
 )

## # A tibble: 12 × 5  
## insomantx\_ng profession\_ng\_up n total percentage  
## <chr> <dbl> <int> <int> <dbl>  
## 1 a 1 8 208 3.8  
## 2 a 2 15 208 7.2  
## 3 a 3 3 208 1.4  
## 4 b 1 36 208 17.3  
## 5 b 2 71 208 34.1  
## 6 b 3 12 208 5.8  
## 7 c 1 11 208 5.3  
## 8 c 2 28 208 13.5  
## 9 c 3 7 208 3.4  
## 10 d 1 6 208 2.9  
## 11 d 2 10 208 4.8  
## 12 d 3 1 208 0.5

# Which of the following social issues may influence patients with SCD? Ans: d

SCDKAPa1 %>%   
 group\_by(socialinfluence\_ng, profession\_ng\_up) %>%   
 summarise(  
 n = n(),  
 .groups = "drop"  
 ) %>%   
 mutate(  
 total = sum(n),  
 percentage = round(n/sum(n)\*100,1)  
 )

## # A tibble: 11 × 5  
## socialinfluence\_ng profession\_ng\_up n total percentage  
## <chr> <dbl> <int> <int> <dbl>  
## 1 a 1 11 208 5.3  
## 2 a 2 29 208 13.9  
## 3 a 3 3 208 1.4  
## 4 b 1 2 208 1   
## 5 b 2 12 208 5.8  
## 6 b 3 3 208 1.4  
## 7 c 1 1 208 0.5  
## 8 c 3 1 208 0.5  
## 9 d 1 47 208 22.6  
## 10 d 2 83 208 39.9  
## 11 d 3 16 208 7.7

# Which of the following psychological issues are not common among patients with SCD? Ans: a

SCDKAPa1 %>%   
 group\_by(psychosocial\_ng, profession\_ng\_up) %>%   
 summarise(  
 n = n(),  
 .groups = "drop"  
 ) %>%   
 mutate(  
 total = sum(n),  
 percentage = round(n/sum(n)\*100,1)  
 )

## # A tibble: 12 × 5  
## psychosocial\_ng profession\_ng\_up n total percentage  
## <chr> <dbl> <int> <int> <dbl>  
## 1 a 1 3 208 1.4  
## 2 a 2 12 208 5.8  
## 3 a 3 3 208 1.4  
## 4 b 1 5 208 2.4  
## 5 b 2 2 208 1   
## 6 b 3 2 208 1   
## 7 c 1 2 208 1   
## 8 c 2 5 208 2.4  
## 9 c 3 4 208 1.9  
## 10 d 1 51 208 24.5  
## 11 d 2 105 208 50.5  
## 12 d 3 14 208 6.7

# Acute hemorrhagic stroke is more common in children than adults? Ans: b (false)

SCDKAPa1 %>%   
 group\_by(hemorstroke\_ng, profession\_ng\_up) %>%   
 summarise(  
 n = n(),  
 .groups = "drop"  
 ) %>%   
 mutate(  
 total = sum(n),  
 percentage = round(n/sum(n)\*100,1)  
 )

## # A tibble: 8 × 5  
## hemorstroke\_ng profession\_ng\_up n total percentage  
## <dbl> <dbl> <int> <int> <dbl>  
## 1 1 1 23 208 11.1  
## 2 1 2 28 208 13.5  
## 3 1 3 6 208 2.9  
## 4 2 1 37 208 17.8  
## 5 2 2 95 208 45.7  
## 6 2 3 17 208 8.2  
## 7 NA 1 1 208 0.5  
## 8 NA 2 1 208 0.5

# Iron overload is common in all adults with SCD? Ans: b (false)

SCDKAPa1 %>%   
 group\_by(ironover\_ng, profession\_ng\_up) %>%   
 summarise(  
 n = n(),  
 .groups = "drop"  
 ) %>%   
 mutate(  
 total = sum(n),  
 percentage = round(n/sum(n)\*100,1)  
 )

## # A tibble: 7 × 5  
## ironover\_ng profession\_ng\_up n total percentage  
## <dbl> <dbl> <int> <int> <dbl>  
## 1 1 1 22 208 10.6  
## 2 1 2 61 208 29.3  
## 3 1 3 13 208 6.2  
## 4 2 1 39 208 18.8  
## 5 2 2 61 208 29.3  
## 6 2 3 10 208 4.8  
## 7 NA 2 2 208 1

# Patients with a hemoglobin of < 5 g/dL should always be transfused? Ans: b (false)

SCDKAPa1 %>%   
 group\_by(hemo\_ng, profession\_ng\_up) %>%   
 summarise(  
 n = n(),  
 .groups = "drop"  
 ) %>%   
 mutate(  
 total = sum(n),  
 percentage = round(n/sum(n)\*100,1)  
 )

## # A tibble: 8 × 5  
## hemo\_ng profession\_ng\_up n total percentage  
## <dbl> <dbl> <int> <int> <dbl>  
## 1 1 1 40 208 19.2  
## 2 1 2 106 208 51   
## 3 1 3 18 208 8.7  
## 4 2 1 20 208 9.6  
## 5 2 2 17 208 8.2  
## 6 2 3 5 208 2.4  
## 7 NA 1 1 208 0.5  
## 8 NA 2 1 208 0.5

# Many patients with SCD experience both acute and chronic pain? Ans: a (true)

SCDKAPa1 %>%   
 group\_by(acutechronpain\_ng, profession\_ng\_up) %>%   
 summarise(  
 n = n(),  
 .groups = "drop"  
 ) %>%   
 mutate(  
 total = sum(n),  
 percentage = round(n/sum(n)\*100,1)  
 )

## # A tibble: 7 × 5  
## acutechronpain\_ng profession\_ng\_up n total percentage  
## <dbl> <dbl> <int> <int> <dbl>  
## 1 1 1 56 208 26.9  
## 2 1 2 114 208 54.8  
## 3 1 3 20 208 9.6  
## 4 2 1 5 208 2.4  
## 5 2 2 9 208 4.3  
## 6 2 3 3 208 1.4  
## 7 NA 2 1 208 0.5

# Long- and short-acting opioids have a role in the management of SCD for patients with chronic pain? Ans: a (true)

SCDKAPa1 %>%   
 group\_by(longshortpain\_ng, profession\_ng\_up) %>%   
 summarise(  
 n = n(),  
 .groups = "drop"  
 ) %>%   
 mutate(  
 total = sum(n),  
 percentage = round(n/sum(n)\*100,1)  
 )

## # A tibble: 7 × 5  
## longshortpain\_ng profession\_ng\_up n total percentage  
## <dbl> <dbl> <int> <int> <dbl>  
## 1 1 1 54 208 26   
## 2 1 2 111 208 53.4  
## 3 1 3 20 208 9.6  
## 4 2 1 7 208 3.4  
## 5 2 2 11 208 5.3  
## 6 2 3 3 208 1.4  
## 7 NA 2 2 208 1

# Addiction is a state of adaptation in which exposure to a drug induces changes that result in a diminution of one or more of the drug’s effects over time? Ans: b (false)

SCDKAPa1 %>%   
 group\_by(addictionadapt\_ng, profession\_ng\_up) %>%   
 summarise(  
 n = n(),  
 .groups = "drop"  
 ) %>%   
 mutate(  
 total = sum(n),  
 percentage = round(n/sum(n)\*100,1)  
 )

## # A tibble: 7 × 5  
## addictionadapt\_ng profession\_ng\_up n total percentage  
## <dbl> <dbl> <int> <int> <dbl>  
## 1 1 1 50 208 24   
## 2 1 2 106 208 51   
## 3 1 3 18 208 8.7  
## 4 2 1 11 208 5.3  
## 5 2 2 16 208 7.7  
## 6 2 3 5 208 2.4  
## 7 NA 2 2 208 1